

Sugar, 138 mgs. Calcium, 7.2 mgs. Inorganic phosphorus, 3.33 mgs.

APRIL 13, 1924—Has been away from work for one month. Feels well. No symptoms for two weeks. Blood calcium, 12.6 mgs. Blood pressure, 136/80.

MAY 10, 1924—Patient has continued at work without symptoms.

1032 West Eighteenth Street.

DISCUSSION

F. R. NUZUM, M. D. (Santa Barbara Cottage Hospital, Santa Barbara)—Doctor Smith's report of a symptom complex in diabetes that might easily be confused with symptoms caused by insulin overdosage is a matter of great importance to those treating diabetic patients. He has shown that there is a difference in the symptomatology of the two conditions, and that laboratory studies will determine at once whether insulin overdosage is actually the cause of the condition. His studies having to do with calcium and inorganic phosphorus of the blood are interesting and suggestive. Further work will be necessary to determine what these findings signify.

A considerable number of diabetic patients with whom we have had to do have had complaints which are covered by the term "neuritis." Any or all of the extremities have been involved in many of these patients. As improvement occurs coincident with the use of insulin, a large per cent of them have become free of these "neuritic" pains. Some extremely emaciated patients, when gaining weight rapidly with the help of insulin, have complained of pains in the joints of the lower extremities upon first arising in the morning. This complaint is not to be confused with the "neuritis" complained of as noted above.

ALBERT H. ROWE, M. D. (242 Moss Avenue, Oakland, Calif.)—The syndrome which Smith reports has been noticed in a few of the patients I have under treatment with insulin, though any urgency in regard to such symptoms has not impressed me. I have carried out calcium determinations on some forty diabetics during the last year with the titration method of Clarke of the University of California. During the same time, in order to be sure of the normal variations obtained by this method, we have determined the calcium content of the blood plasma in fifty normals, most of whom were first and second year medical students. The results obtained in this normal series vary between about 8 milligrams and 12 milligrams per 100 cc. of blood plasma, and the diabetic values have fallen within the same range, excepting in several cases of coma where with much dehydration the calcium was around 13 or 14 milligrams. I am continuing the calcium studies, and it will be with added interest that I shall watch for the syndrome which Smith describes and seek to corroborate his findings in regard to the calcium values in the blood plasma of such patients.

P. BERMAN, M. D. (Los Angeles General Hospital, Los Angeles)—I have on several occasions observed a train of symptoms similar to those described by Smith, especially in patients taking large doses of insulin. The blood sugar examined at the time of the reaction does not show the expected hypoglycemia. This was especially noticed in some patients recovering from deep coma after very large doses of insulin were given. Pain in the extremities was a most usual symptom in my patients. The cause of this condition in several patients was considered to be due to the too rapid reduction in the blood sugar, though the level of the sugar in the blood still remained above normal.

The relation of this symptom complex to the calcium condition of the blood is certainly of great interest.

Do You Know Him?—A man who is now a prominent practicing physician was speaking of an old doctor who has just died. "I remember," he said, "when I was an interne, coming in late one night to the hospital and I saw this doctor sitting on the steps. 'What is the matter?' I asked him. 'Well, that woman we operated today,' he said, 'I went home and went to bed, but I kept thinking about her and I couldn't sleep, so I got up and dressed and came over. I thought it was better to be around here in case any complications should come up.'"—Missouri State Medical Journal.

RINGWORM OF THE SCALP *

By HIRAM E. MILLER, M. D., San Francisco

The disease increasing.

X-ray the best treatment and the quickest cure.

DISCUSSION by Samuel Ayres, Los Angeles; Granville MacGowan, Los Angeles; O. V. Schroeter, Los Angeles; Moses Scholtz, Los Angeles; Harry E. Alderson, San Francisco.

THE marked increase in the number of patients that I have recently seen with ringworm of the scalp has prompted me to bring this subject before you. In the last six months, I have treated in clinic and private practice over ten times as many cases as in any previous six-month period. The cases have been diffusely scattered throughout the San Francisco bay region, and are not the result of an epidemic in a single institution or localized community. I do not know the cause of this increase, but I think that it may go hand in hand with a general increased prevalence of ringworm infections of other parts of the body.

The following chart will show this increase:

1920	1921	1922	1923	1924	Total
— 3	3 6	6 4	3 19	43	87

Of the 19 cases in the last half of 1923, 18 occurred during November and December. All of the cases in 1924 have occurred during the last four months. This makes a total of 61 cases during the last six months. The largest number that I had seen in any previous six months was 6. Of these 87 cases, 19 came from private homes, and the remaining 68 from five different orphanages or institutions.

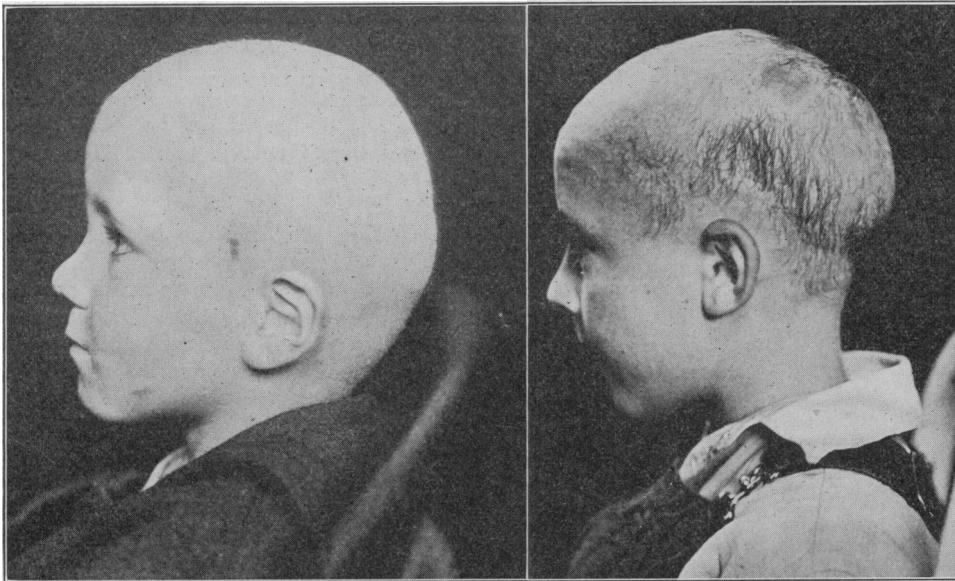
Before the advent of modern x-ray therapy, the treatment of this number of patients would have been a long and tedious process. I personally have not had any experience in treating ringworm of the scalp with local applications. At the Paris Ringworm School, prior to the time when x-ray therapy was used, it took, on an average, two years to cure their cases. This was under ideal conditions, the therapy being given by experienced attendants. Darier states that it takes an average of eighteen months to produce a cure, with a few taking from two to four years.

A few of my cases were well and back in school in a month. On an average, they were away from school for seven and one-half weeks, the longest period being three and one-fourth months. The hair had not returned in this time, but the child was cured of the ringworm infection.

I do not wish to advocate x-ray therapy for all cases of ringworm of the scalp, nor do I wish to deny the fact that isolated cases may be cured by local applications in a comparatively short time. Broadly speaking, however, I do think that x-ray therapy is the method of choice and the only type of therapy to be carried on in institutions on account of the danger of infection to others.

Ringworm of the scalp clears spontaneously at puberty, probably due to some inhibitory action of the glands of internal secretion on the growth of the organism in the hair shafts. Children who are 12 to 13 years of age may, therefore, be treated with local applications, knowing that they will clear

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No. 1—Complete defluvium due to x-ray therapy. Ringworm infection is cured and hair is returning. Photograph taken one month after treatment.

No. 2—Partial defluvium due to x-ray therapy. Hair has all fallen from ringworm areas. Disease cured and new hair coming in. Six weeks after treatment.

within a few months, due to internal changes. In an infant of six and one-half months, I was able to clear up the disease in a few weeks with local applications. In a child under 3 years of age it may be difficult to give x-ray therapy, as the little patient will be unable to stay quiet for a sufficient period of time. All patients between the ages of 3 and 12 can generally be treated with x-ray therapy without difficulty. I have had some children of 3 years of age that were much easier to treat than others of 8 or 10. Institutional children in general are ideal patients, while those from private homes are often spoiled and unruly.

It is needless to say that a positive diagnosis must be made before the patient is submitted to x-ray therapy. The main difficulty that one encounters is in differentiating the disease from alopecia areata. The bran-like scales, the stumps of hairs, and the localized areas of alopecia in a young subject are always more than suggestive. Microscopical examination of the stumps of hairs should always be done to make a positive diagnosis. The diagnosis should be made as soon as possible to prevent the possibility of infecting others.

When there is only one visible lesion, one may be tempted to epilate this area alone. In general, I think this is always unsatisfactory. When the clippers are run over the scalp, many smaller areas are found that could not be seen before the hair was clipped. If one area is to be treated, make that exposure correspond to one of the five Kienböck-Adamson areas, so if further treatment is necessary the other four areas may be used. I had one case referred to me on which the localized areas only had been treated, and many of the early areas were re-infected before the later ones were healed and a sufficient period of time had not elapsed to allow further x-ray treatment.

In 1897, two years after the discovery of x-rays, Freund suggested the use of x-ray in treating local-

ized areas of ringworm of the scalp. Due to inaccurate instruments, many cases of permanent alopecia resulted. In 1904 Sabouraud and Noiré introduced the plan of epilating the entire scalp at one sitting. In 1907 and 1909 Kienböck and Adamson, respectively, elaborated our present method of treating five areas. The advent of the Coolidge tube in 1914, the development of the interrupterless transformer by Snook in 1908, and the arithmetical method of computing dosage as advanced by MacKee, Remer, and Witherbee, have made x-ray treatment of ringworm of the scalp a safe procedure.

X-ray treatment for ringworm of the scalp is solely a mechanical process. The spores and mycelia are unaffected by the roentgen ray. The ray causes the hair shaft to fall from the hair follicle in from fifteen to twenty-one days after exposure. It thus removes the millions of spores and all of the hair in which they may live.

The local treatment that has been recently applied to the scalp may be a contra-indication to immediate radiation. If mercury, iodine, sulphur, chrysarobin, etc., has been applied in any form, a period of a week or ten days should be allowed to elapse before x-ray treatment is given.

The hair should be cut close to the scalp, to enable one to make careful measurements and to prevent it from acting as a filter.

I do not wish to go into the technique of x-ray treatment of ringworm of the scalp in detail. Anyone who endeavors to do this type of work should acquaint themselves with every detail as brought out in MacKee's text-book on "X-ray and Radium Treatment of Diseases of the Skin." The scalp is marked off into five areas, according to the Kienböck-Adamson method. One Holzknecht unit of unfiltered x-ray therapy at skin distance is given over each of these five areas at one sitting. The whole procedure is carried out in a period of twenty to thirty minutes. The hair falls out within two to

three weeks after treatment. With this technique, all of the hair may not fall. In general, the diseased hair falls first, and even with a partial defluvium the result will be satisfactory. The hair begins to return almost immediately, and the patient will have a good growth of hair in three or four months. The margin of safety is likely such that one may give 25 per cent more than this amount without disastrous results, but this should not be encroached upon.

Of the eighty-seven cases that I have treated with x-ray therapy, I have not had a single case with any permanent alopecia. Everyone should have the same results if they follow the technique carefully. In the first two patients that I treated, the hair did not fall at all. They were the first cases with ringworm of the scalp that I had treated with this machine, and they did not receive sufficient x-ray to cause a defluvium. They had to be retreated.

The after treatment of most of these cases is very simple. The children are provided with cloth caps, to be worn under the regular head covering. They have to be changed daily or bi-weekly, and boiled before reusing. These are discarded as soon as the hair has fallen. At the end of the second week I prescribe a 3 per cent ammoniate of mercury ointment to be massaged into the scalp, with the idea of preventing reinfection.

A week or ten days after the x-ray has been applied the areas may become inflamed. In certain cases (10 per cent) mild as well as severe toxic symptoms may develop along with a more or less severe impetiginized dermatitis of the entire scalp. Under the continued use of a 3 per cent ammoniate of mercury ointment, perhaps supplemented by boric acid compresses, the areas clear up in from ten days to two weeks' time, not however, without considerable worry and concern on the part of the parents of the child.

Without thorough study one cannot appreciate the economic and social aspects of the disease. Under modern x-ray therapy each patient generally remains out of school from six to nine weeks, and may have been the cause of several others remaining away for similar periods of time. If the disease is left untreated or treated with local applications alone, the child may be forced to remain out of school until the disease heals spontaneously at the age of puberty. He is then so backward that he may prefer to go to work rather than to school.

In conclusion, I wish to call your attention to the marked increase in the prevalence of ringworm of the scalp, to roentgen-ray therapy as the best and quickest way to a permanent cure and to the comparative safety of this procedure if all details of technique are carefully carried out.

Fitzhugh Building.

DISCUSSION

SAMUEL AYRES, JR., M. D. (Brockman Building, Los Angeles)—I thoroughly agree with Dr. Miller regarding the efficacy of x-ray in the treatment of ringworm of the scalp; its rapid and satisfactory results have been amply demonstrated. In the hands of such a capable operator as Miller it is reasonably safe. But I do contend that conservative measures are preferable in the average case.

The element of risk in roentgenotherapy cannot be entirely removed, and I do not feel that any element of risk whatsoever should enter into the treatment of a benign

condition when absolutely safe measures can be applied with success. In treating carcinoma or some serious disorder which threatens life, a reasonable element of risk is justifiable. A personal experience of my own in which I was very nearly responsible for producing a permanent alopecia has given me a wholesome respect for the possible dangers of roentgenotherapy. I am not nearly so pessimistic concerning the treatment of scalp ringworm by local applications. I thoroughly agree and insist that epilation shall be the first step in treatment, but with a little care and patience this can be accomplished in a most thorough manner by means of epilating forceps or in more extensive areas by the application and rapid removal of sheets of adhesive plaster after the hair has been cut close. The infected hairs readily adhere to the adhesive. Rigid cleanliness to avoid reinfection must be observed. A variety of local applications has been successful in my hands, especially sulphur and salicylic ointment. The treatment must be kept up from four to six weeks or longer, and epilation must be repeated every few days as needed. Thorough application of the medicament is necessary; it should be rubbed into the entire scalp for at least fifteen minutes every night and morning. Since many of our cases are seen at the Parent-Teachers' clinic and are under the careful supervision of school nurses, we feel that our cures are permanent in a high percentage of cases, and that they can be effected within a month or two. The large spore type of ringworm is often overlooked because it does not present the typical bald areas. School nurses especially should be taught to recognize these less typical cases which are often confused with seborrhea.

Although I have no available figures to offer, I have not been aware of any increase in the incidence of tinea capitis in Los Angeles.

GRANVILLE MACGOWAN, M. D. (Brack Shops Building, Los Angeles)—Dr. Miller has given to us a very interesting exposition of the most modern and rapidly successful method of treatment for ringworm of the scalp. No fault can be found with his statistics; nor are his claims unreasonable. It is alluring enough when we consider that we have at our command an agent that is clean, painless, and requires but one application to effect a cure of this loathsome disease within a very few weeks.

And yet I think I can easily see that its popularity will probably not be great, for unfortunately no one can say more than this skillful roentgeologist where he speaks of the "comparative safety of this procedure if all details of technique are carefully carried out."

There is always a chance that an undefendable suit for damages may be just back of its use, for an occasional destruction of the hair follicles and permanent baldness may result.

In private practice, given the proper attention by means of local remedies, the outlook for the care of ringworm of the scalp is only in the exceptional cases, the *bête noir* it is pictured in the books. It usually can be overcome in a reasonable time by skill applied with care.

Who of us would look with equanimity upon the unpleasant sight of a girlchild of our own made permanently bald so that she might be rid of a disease that, at the most, is only a nuisance.

O. V. SCHROETER, M. D. (Union Bank Building, Los Angeles)—Until such a time in dermatological practice as x-ray exposure to human tissues can be so precisely measured as to obviate all harmful results in all instances of average practice—and it is doubtful if such a time can ever come—especially in view of varying susceptibility as well as other factors, this form of treatment should not be the one of election. And such is the case in the treatment of ringworm of the scalp; the usual methods of treatment get results in even less time, in most cases, than it takes to recover from the x-ray alopecia when that is not permanent.

In fact, as with ringworm of the scalp, many cutaneous diseases, too many, are treated roentgenologically that should not be or could be treated with as good or better results by other methods. My experience is that the use of x-ray should be more restricted in the treatment of skin conditions. When one sees inflammatory skin conditions treated even by dermatologists in this way, it brings the thought that the x-ray is used many times because it is

handy, and the apparatus cost something, and not because the case was selected.

This is no criticism of the skillful epilation as done by Dr. Miller and others before him. The method should not be used generally.

MOSES SCHOLTZ, M. D. (Brockman Building, Los Angeles)—The advocacy of x-ray treatment as the method of choice in ringworm of the scalp can be accepted only with certain reservations. Theoretically, it must be granted that, in the hands of a competent operator, x-ray is the most effective, clean, quick, and reasonably safe method of treating ringworm of the scalp. However, I fear that, should we broadcast this notion and encourage the average regular and irregular practitioner to attempt this short cut to the cure of ringworm cases, disastrous results would follow. We see already entirely too many x-ray acute and chronic burns following the treatment of perfectly benign dermatologic conditions, such as psoriasis, eczemas, warts, etc. Epilation of the hair by x-ray is one of the most delicate technical problems in practical x-ray work, and should be entrusted only to men handling large numbers of these cases, specializing in this line of work. Leaving aside the question of idiosyncrasy, which is doubted by most roentgenologists, the milder degree of it—individual hypersensitiveness—cannot be denied; neither the possibility of a delayed x-ray reaction can be gainsaid.

I agree with the previous speaker that, in a benign condition, such as ringworm of the scalp, which in many cases responds to local medication, would be ill-advised to use as a routine measure a weapon potential of dangerous effects as x-ray. In my opinion, every case of ringworm of the scalp should be given a trial of thorough local medication for a reasonable period of time, say from four to six weeks. Only persistent, intractable cases, those generalized all over the scalp, also cases lacking facilities of proper nursing (which is the most important factor in the treatment of ringworm), and particularly institutional cases, should be referred for x-ray treatment. With this reservation of using x-ray only in certain types of cases as means of the last resort, and not as the method of choice, I fully endorse the advocacy of x-ray treatment in ringworm of the scalp.

HARRY E. ALDERSON, M. D. (240 Stockton Street, San Francisco)—I have read Miller's paper with much interest, for I know something about his good work.

Roentgen-ray treatment of this condition, according to MacKee's technique, is cleanly and effective. In the hands of a careful man like Miller it is safe, and the results are good. There are other effective methods, but they are useless unless the patient and family co-operate fully. Where x-ray treatment is not feasible, I use a prescription given me by Jackson some years ago, containing iodine crystals in goose grease, with which you are all familiar. I have found it satisfactory. Lately, I have been using also a penetrating cleansing lotion of iodine and carbon tetrachloride. The patient must carry out the treatment intelligently and faithfully.

We are seeing a great many cases of ringworm at the Stanford Skin Clinic (and they come from all over the city), but we have not noticed any very marked increase in their number. It seems to me that Miller's rate of increase may be due to the rapid growth of his practice rather than to other causes. There are some children's institutions that seem to be regular incubators for this sort of thing. We can trace many of our ringworm, impetigo, and scabies cases in children to those places. We can keep on treating these cases successfully, but until the foci that exist here and there are cleaned up, we shall continue having many new cases.

DOCTOR MILLER (closing)—In general, the discussion of this paper has brought out the facts that I wished to emphasize. X-ray therapy of ringworm of the scalp should not be attempted by those who are not thoroughly familiar with its use, especially in the treatment of this disease. I purposely omitted the details of technique, to prevent anyone from attempting to treat the disease with only the data from this brief paper.

I wish to take exception to the statements that most cases of ringworm of the scalp can be cured by local applications in a month or two, and that the disease at the most is only a nuisance. I do not believe that the authority that I quote as to the average duration of the disease can be questioned. Darier's statistics of thousands of cases that

were put into an institution and kept there until well show that it takes an average of eighteen months to produce a cure without x-ray therapy. They were treated by expert attendants. Some were well in a month or two, others took three or four years, the average being eighteen months. I know very well that some cases can be cured in a very few months without x-ray therapy. In private or clinic practice we follow those that clear up quickly, while those of long duration are apt to consult others, in the hopes of a more rapid cure. If a child is forced to remain away from school for six to eighteen months or longer, and if he has given the disease to others who had to lose their schooling for a similar period of time, I think that the disease is not a nuisance, but a calamity.

If a child with ringworm of the scalp can be given constant and intelligent nursing and kept isolated from other children, that child may be treated successfully and rather quickly cured without x-ray therapy. Unfortunately, most of the cases occur among the people in poor circumstances and large families or in institutions. These patients, I believe, should have modern x-ray therapy, in which minute care is given to all details of technique.

THE SURGICAL TREATMENT OF THE OBSTRUCTING PROSTATE *

By FLOYD F. HATCH, M. D., Salt Lake City, Utah
(From the Inter-Mountain Clinic, Salt Lake)

*Analysis of twenty-eight cases.
Study of recent literature.*

DISCUSSION by Mark Brown, Ogden, Utah; W. G. Schulte, Salt Lake City; James R. Dillon, San Francisco.

THE radical surgical procedures that we employ in prostatic obstruction must more than counterbalance in percentage of safety the dangers of chronic bladder residual with infection and mechanical obstruction to the outflow from the kidneys, resulting in their gradual destruction. In simple language the probability of "cure" must not be worse than the disease.

To appreciate exactly what we are offering to the public and justify ourselves in proceeding with certain types of surgery or medicine, we should periodically classify and study our treatment and results and then act on the basis of our own statistics, and not upon those of famed contemporaries. It was with this idea in mind that I have prepared an analysis of my last twenty-eight cases of prostatic obstruction that have had radical surgical treatment.

The pathology and mechanism of prostatic hypertrophy, according to some authorities, is that the prostate proper atrophies in advanced life, while the submucous glands undergo hypertrophy. These proliferating peri-urethral glands spread in various directions and thereby intrude upon the prostatic gland, which, in consequence, undergoes further atrophy. The prostate itself often appears as a pseudo-capsule, about half a centimeter thick, which the microscope will identify as prostatic tissue. The correct term should be nodular hyperplasia of the peri-urethral glands which are located between the verumontanum and internal sphincter. Predominance of adenomatous or fibromyomatous features are of no real importance, as there is no pure formation of either type. The so-called adenomatous type is observed in about 90 per cent of the cases, while the hard sclerosed nodules or fibrosis, constituting 10 per cent, are secondary to inflammation of the

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